Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of claims:

1. (Currently Amended) A system for detecting and communicating the position of a pusher assembly on a shelf, comprising:

an indicia strip containing a pattern of bits;

a sensor assembly comprising a transmitter configured to send a signal to a processing device, the sensor assembly configured to detect the position of the pusher assembly by scanning the indicia strip and determining a code based on the pattern of bits scanned, the sensor assembly positioned on a pusher and configured to transmit the code representative of the position of the pusher assembly for further processing; and

the processing device configured to receive the transmitted code, and further configured to determine the movement of the pusher assembly and a rate of change in a product level, and calculate the distance between the pusher assembly and an end of the shelf based on the transmitted code, and wherein the processing device is and further configured to provide a notification concerning the position ofwhen a deviation in the typical movement of the pusher assembly and rate of change of product level has occurred.

2. (Canceled)

3. (Previously presented) The system of claim 1, wherein the transmission between the sensor assembly and the processing device is wireless.

4. (Previously presented) The system of claim 1, wherein the transmission between the sensor assembly and the processing device is over a network.

5. (Canceled)

6.   (Original)   The system of claim 1, wherein the sensor assembly comprises an optical sensor.

7.   (Original)   The system of claim 1, wherein the sensor assembly comprises a capacitive proximity sensor.

8.   (Original)   The system of claim 1, wherein the sensor assembly comprises a magnetic proximity sensor.

9.   (Original)   The system of claim 1, wherein the sensor assembly comprises a inductive proximity sensor.

10.   (Previously Presented)   The system of claim 1, wherein the sensor assembly further comprises a receiver, wherein the transmitter is configured to send a signal to the receiver, the sensor assembly further comprising a timing device, wherein the timing device is used to measure the time for the signal to travel from the transmitter to the receiver.

11.   (Previously Presented)   The system of claim 1, wherein the sensor assembly further comprises a receiver, a radio frequency identifying transponder, and a timing device, wherein the transmitter is configured to transmit an activation signal to the radio frequency identifying transponder, the receiver is configured to receive a responsive signal from the radio frequency identifying transponder in response to the activation signal, and the timing device configured to measure the delay between the transmitting of the activation signal and the receiving of the responsive signal.

12.   (Previously Presented)   The system of claim 1, wherein the processing device receives updated codes in real time.

13-16. (Canceled)

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17. (Currently Amended) A system for inventory management on a shelf, including a pusher assembly on the shelf, comprising:

an indicia strip mounted on a coiled spring on the pusher assembly and configured to provide a representation in a pattern reflecting the position of the pusher assembly on the shelf;

a sensor assembly comprising a transmitter configured to send a signal to a store computer, the sensor assembly configured to transmit a pusher code, the pusher code based on the representation on the indicia strip; and

the store computer configured to receive the pusher code from the sensor assembly, and further configured to determine a movement of the pusher assembly and a rate of change in a product level, and further configured~~to calculate the distance between the pusher assembly and an end of the shelf based on the pusher code and~~ to provide a notification ~~concerning the position of~~when a deviation in the typical movement of the pusher assembly and rate of change of product level has occurred.

18. (Original) The system of claim 17, wherein the sensor assembly transmits the pusher code wirelessly.

19. (Original) The system of claim 17, wherein the indicia strip is associated with a self coiling sheet.

20. (Original) The system of claim 19, where the indicia strip comprises a Gray Code pattern.

21. (Currently Amended) A system for aiding in the prevention of theft of inventory, comprising:

a sensor assembly comprising a transmitter configured to send a signal to a store computer, the sensor assembly associated with a pusher assembly having an indicia strip, the sensor assembly positioned on a pusher and configured to scan a pattern of bits on the indicia strip to determine a code based on the pattern of bits scanned and transmit the code relating to the position of the pusher assembly; and

the store computer configured to receive the code and to transmit a signal in response to the code and compare the code to a previous pusher code, and further configured to determine a movement of the pusher assembly and a rate of change in a product level, and further configured to provide a notification ~~that~~ when a deviation in the typical movement of the pusher assembly and rate of change of product level has occurred.

22.   (Original)   The system of claim 21, further comprising a security camera configured to respond to the signal, the response including the focusing in the direction of the sensor assembly.

23.   (Canceled)

24.   (Previously presented) The system of claim 22, where the notification is sent to in-store security personnel.

25.   (Original) The system of claim 21, wherein the sensor assembly monitors the position of the pusher in real time.

26.   (Currently Amended) A system for inventory management, comprising:
an indicia strip mounted on a coiled spring on the pusher assembly and configured to provide a representation in a pattern reflecting a position of a pusher assembly;
a sensor assembly comprising a transmitter configured to send a signal to a store computer, the sensor assembly configured to scan and transmit a pusher code based on the representation contained on the indicia strip;
an access point configured to receive the pusher code from the sensor assembly and to transmit a signal;
a central access point configured to received the signal; and
the store computer configured to process the signal received by the central access point, ~~calculate the distance between the pusher assembly and an end of a shelf based on the signal~~and further configured to determine a movement of the pusher assembly and a rate of change in a

product level, and further configured to provide a notification ~~of the position of~~when a deviation in the typical movement of the pusher assembly and rate of change of product level has occurred.

27.   (Original) The system of claim 26, wherein the sensor assembly transmits the pusher code in a wireless manner.

28.   (Original) The system of claim 26, where the representation on the indicia strip is stored in Gray Code.

29.   (Original) The system of claim 26, wherein the indicia strip is configured so that the representation is reflective of not more than four regions.

30.   (Previously Presented) The system of claim 26, wherein the indicia strip is configured so that the representation is reflective of not more than ten regions.

31.   (Currently Amended) A inventory management system for a facing on a shelf, comprising:

a sensor assembly comprising a transmitter configured to send a signal to a store computer, the sensor assembly configured for automatic determination of the amount of inventory in a facing; the sensor assembly configured to scan an indicia strip mounted on a coiled spring on the pusher assembly, the indicia strip containing data including a pattern representing the position of a pusher assembly and transmit the data representing the position of a pusher assembly; and

the store computer configured to receive and process data from the sensor assembly, and further configured to determine a movement of the pusher assembly and a rate of change in a product level, and further configured to provide a notification when a deviation in the typical movement of the pusher assembly and rate of change of product level has occurred~~calculate the distance between the pusher assembly and an end of the shelf based on the data from the sensor assembly, and to provide a notification of the relative position of the pusher assembly~~.

32.　(Original)　The system of claim 31, wherein the sensor transmits the data in a wireless manner.

33.　(Original)　The system of claim 31, wherein the sensor assembly is mounted to the pusher assembly.

34.　(Currently Amended)　A system for sensing the removal of a product from a shelf, comprising:

a pusher assembly mounted to the shelf;

an indicia strip mounted on a coiled spring on the pusher assembly and configured to provide a representation in a pattern reflecting the position of the pusher assembly;

a sensor associated with the pusher assembly, the sensor configured to scan the indicia strip; and

a controller configured to measure the position of the pusher assembly via the sensor, the controller being responsive to movement of the pusher assembly, the controller further configured to ~~calculate~~ determine a movement of the pusher assembly and a rate of change in a product level, and further configured to ~~and~~ provide a notification ~~that~~ when a deviation in ~~amount of product typically removed from the shelf~~ the typical movement of the pusher assembly and rate of change of product level has occurred.

35.　(Original)　The system of claim 34, wherein the indicia strip is not more then six bits wide.

36.　(Original)　The system of claim 34, wherein the indicia strip is not more then two bits wide.

37-40. (Canceled)

41.　(Currently Amended)　An inventory management system for a store, comprising:

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a sensor assembly comprising a transmitter configured to send a signal to a store computer, the sensor assembly configured to automatically provide data regarding inventory in a facing on a shelf, the data including a pattern on an indicia strip representing the position of a pusher assembly, the sensor assembly positioned on a pusher; and

the store computer configured to receive the data from the sensor assembly, wherein the store computer is configured to determine a movement of the pusher assembly and a rate of change in a product level, and further configured to provide a notification when a deviation in the typical movement of the pusher assembly and rate of change of product level has occurred~~to calculate the distance between the pusher assembly and an end of a shelf based on the signal and determine the level of inventory based on the position of the pusher assembly, and wherein the store computer is further configured to provide notification of the level of inventory on the shelf~~.

42.   (Original)   The inventory management system of claim 41, wherein the data is provided to the store computer over a network.

43.   (Original)   The inventory management system of claim 41, wherein the sensor assembly comprises an optical scanner.

44.   (Original)   The inventory management system of claim 41, wherein the sensor assembly and the store computer are configured for two-way communication and the sensor provides data in response to a query from the store computer.

45-49. (Canceled)